



Dart Aerospace Ltd.

1270 Aberdeen St

Hawkesbury, ON

K6A 1K7

Canada

Tel (613) 632-5200

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C45-C

Job Sheet 203998



Part No: C45-C

Job Qty: 1 pcs

Part Name: Single Cage Assembly (C45 & C60 Hook)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 12/2/19

Job Tracking No:

Due Date: 1/30/20

Created By: Jennifer Renwick

Type: Stock

Description:

Note: C45-C rev.E IPP REV:A 18.01.22 NEW ISSUE DD VERF:DP IPP REV:B 19.05.02 AS PER DWG REV.E DD VERF:DP

Ship Via:

Bill of Materials

Job Routing

| Op No | Operation                   | Qty   | Start Date | Due Date  | Standard Setup Run Hrs Hrs | Workcenter / Supplier | Lead Time | Sign-off           |
|-------|-----------------------------|-------|------------|-----------|----------------------------|-----------------------|-----------|--------------------|
| 100   | External Load - Issue SN    | 1 pcs | 1/30/20    | 0.00 1.00 | External Load - 1          |                       |           |                    |
|       |                             |       |            |           | External Load - 2          |                       |           | Muh/ 2019-12-17    |
|       |                             |       |            |           | External Load - 3          |                       |           |                    |
| 110   | External Load - 2 - B4B     | 1 pcs | 1/30/20    | 0.00 0.50 | External Load - 1 - B4B    |                       |           | AP 2019-12-18      |
|       |                             |       |            |           | External Load - 2 - B4B    |                       |           |                    |
|       |                             |       |            |           | External Load - 3 - B4B    |                       |           |                    |
| 120   | QC 5                        | 1 pcs | 1/30/20    | 0.00 0.00 | QC 5 - 10                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 12                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 17                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 18                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 19                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 22                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 24                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 3                   |                       |           |                    |
|       |                             |       |            |           | QC 5 - 43                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 49                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 51                  |                       |           | DAS 58 JAN 07 2020 |
|       |                             |       |            |           | QC 5 - 58                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 68                  |                       |           | 9-89               |
|       |                             |       |            |           | QC 5 - 9                   |                       |           |                    |
|       |                             |       |            |           | QC 5 - 50                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 30                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 40                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 61                  |                       |           |                    |
|       |                             |       |            |           | QC 5 - 81                  |                       |           |                    |
| 140   | Packaging 3-1 - Stock - B4B | 1 pcs | 1/30/20    | 0.00 0.00 | Packaging 3 - 1 - B4B      |                       |           |                    |
|       |                             |       |            |           | Packaging 3 - 2 - B4B      |                       |           |                    |
|       |                             |       |            |           | Packaging 3 - 3 - B4B      |                       |           |                    |
|       |                             |       |            |           | Packaging 3 - 4 - B4B      |                       |           |                    |
|       |                             |       |            |           | Packaging 3 - 5 - B4B      |                       |           |                    |



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CANADA

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Container No: S241284



Part: C45-C

Job No: 203998

Serial No/Batch: S241284

Revision: E

Inspector:

Exp Date:

Instructions:

Date: 12/17/19

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Dart.Renwick.Jennife

https://www.plexonline.com/2c19ad05-70a5-414d-ba32-c14317e03302/Plexus\_Control/Report\_Viewer\_2.asp?URL=https://www.plexonline.com/2c19a...

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|                |       |         |           |                        |                  |
|----------------|-------|---------|-----------|------------------------|------------------|
|                |       |         |           | Packaging 3 - 6 - B4B  |                  |
|                |       |         |           | Packaging 3 - 7 - B4B  | DAS              |
|                |       |         |           | Packaging 3 - 8 - B4B  | 58               |
|                |       |         |           | Packaging 3 - 9 - B4B  | 9-89 JAN 07 2020 |
|                |       |         |           | Packaging 3 - 10 - B4B |                  |
|                |       |         |           | Packaging 3 - 11 - B4B |                  |
|                |       |         |           | Packaging 3 - 12 - B4B |                  |
|                |       |         |           | Packaging 3 - 13 - B4B |                  |
|                |       |         |           | Packaging 3 - 14 - B4B |                  |
|                |       |         |           | Packaging 3 - 15 - B4B |                  |
|                |       |         |           | Packaging 3 - 16 - B4B |                  |
|                |       |         |           | Packaging 3 - 17 - B4B |                  |
|                |       |         |           | Packaging 3 - 18 - B4B |                  |
|                |       |         |           | Packaging 3 - 19 - B4B |                  |
|                |       |         |           | Packaging 3 - 20 - B4B |                  |
|                |       |         |           | Packaging 3 - 21 - B4B |                  |
|                |       |         |           | Packaging 3 - 22 - B4B |                  |
|                |       |         |           | Packaging 3 - 23 - B4B |                  |
|                |       |         |           | Packaging 3 - 24 - B4B |                  |
|                |       |         |           | Packaging 3 - 25 - B4B |                  |
|                |       |         |           | Packaging 3 - 26 - B4B |                  |
|                |       |         |           | Packaging 3 - 27 - B4B |                  |
|                |       |         |           | Packaging 3 - 28 - B4B |                  |
|                |       |         |           | Packaging 3 - 29 - B4B |                  |
|                |       |         |           | Packaging 3 - 30 - B4B |                  |
|                |       |         |           | Packaging 3 - 31 - B4B |                  |
|                |       |         |           | Packaging 3 - 32 - B4B |                  |
|                |       |         |           | Packaging 3 - 33 - B4B |                  |
|                |       |         |           | Packaging 3 - 34 - B4B |                  |
|                |       |         |           | Packaging 3 - 35 - B4B |                  |
|                |       |         |           | Packaging 3 - 36 - B4B | DAS              |
| 160 QC 21 - FG | 1 pcs | 1/30/20 | 0.00 0.00 | QC 21 - FG - 21        | 21               |
|                |       |         |           | QC 21 - FG - 70        | 9-89             |
|                |       |         |           | QC 21 - FG - 53        | JAN 07 2020      |

Part Op 100 - Issue S/N  
Descriptions: 110 - (Small Fab)ASSEMBLE AS PER DWG \*\*\*HAND TIGHTEN ALL BOLTS, SPREAD COTTER PIN JUST ENOUGH SO THAT IT WILL NOT FALL OUT\*\*\*  
120 - (QC5- Inspect part completeness to step on W/O)  
140 - (Identify as per dwg & Stock Location: \_\_\_\_\_)  
160 - QC21- Final Inspection - Work Order Release)

Carneh

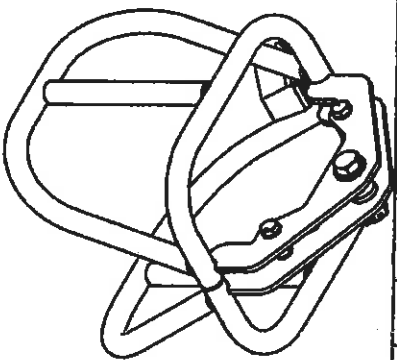
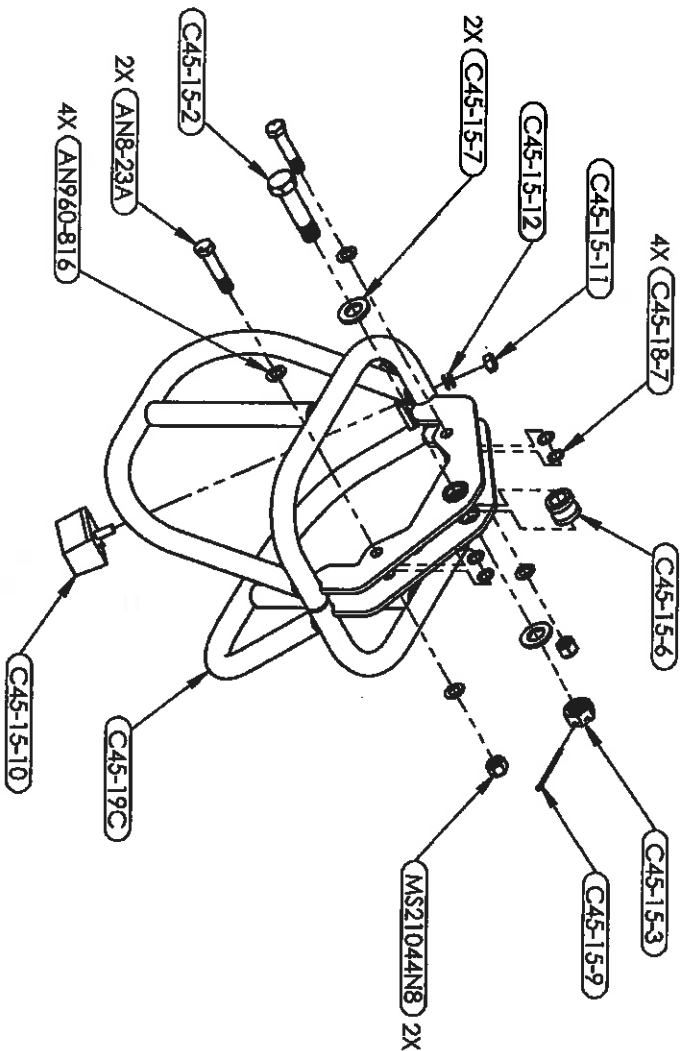
| Job BOM       |                                |              |                              |           |
|---------------|--------------------------------|--------------|------------------------------|-----------|
| Part / Item   | Component Name                 | Quantity     | Operation                    | Container |
| AN12H32       | Bolt                           | 1 pcs (1 ea) | 100-External Load - Issue SN | 5159804   |
| AN310-12      | Castellated Nut                | 1 pcs (1 ea) | 110-External Load - 2 - B4B  | 5004855   |
| AN8-23A       | Bolt                           | 2 Ea (2 ea)  | 110-External Load - 2 - B4B  | 5174259   |
| C45-15-10     | Ford Bumper                    | 1 pcs (1 ea) | 110-External Load - 2 - B4B  | 5209453   |
| C45-15-11     | Nut, Cage Bumper               | 1 Ea (1 ea)  | 110-External Load - 2 - B4B  | 5036837   |
| C45-15-6      | Bushing, Lifting               | 1 pcs (1 ea) | 110-External Load - 2 - B4B  | 5180462   |
| C45-15-7      | Washer, Lifting Bolt           | 4 pcs (4 ea) | 110-External Load - 2 - B4B  | 5239589   |
| C45-18-7      | Shim                           | 4 Ea (4 ea)  | 110-External Load - 2 - B4B  | 5189687   |
| C45-19C       | Weldment                       | 1 pcs (1 ea) | 110-External Load - 2 - B4B  | 5191507   |
| MS21044N8     | Nut, Self-Lock .500-20,UNJF-3B | 2 Ea (2 ea)  | 110-External Load - 2 - B4B  | 5200381   |
| MS24665-363   | Cotter Pin                     | 1 Ea (1 ea)  | 110-External Load - 2 - B4B  | 5092509   |
| NAS1149C0663R | Washer (AN960C616)             | 1 Ea (1 ea)  | 110-External Load - 2 - B4B  | 5076016-1 |
| NAS1149F0832P | Washer (AN960-816L)            | 4 Ea (4 ea)  | 110-External Load - 2 - B4B  | 5076018   |

| Job Allocations                    |                |          |           |           |
|------------------------------------|----------------|----------|-----------|-----------|
| Operation                          | Component Part | Required | Inventory | Allocated |
| 100-External Load - Issue SN       | AN12H32        | 1        | 32        | 0         |
|                                    | AN310-12       | 1        | 12        | 0         |
| 110-External Load - 2 - B4B        | AN8-23A        | 2        | 46        | 0         |
|                                    | C45-15-10      | 1        | 14        | 0         |
|                                    | C45-15-11      | 1        | 67        | 0         |
|                                    | C45-15-6       | 1        | 8         | 0         |
|                                    | C45-15-7       | 4        | 13        | 0         |
|                                    | C45-18-7       | 4        | 14        | 0         |
|                                    | C45-19C        | 1        | 1         | 0         |
|                                    | MS21044N8      | 2        | 26        | 0         |
|                                    | MS24665-363    | 1        | 33        | 0         |
|                                    | NAS1149C0663R  | 1        | 398       | 0         |
|                                    | NAS1149F0832P  | 4        | 125       | 0         |
| Part Specifications                |                |          |           |           |
| Specifications could not be found. |                |          |           |           |

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| REVISIONS |         |                                                                                                                                                                                        |            |                    |
|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|
| REV       | ECR     | DESCRIPTION                                                                                                                                                                            | DATE       | INITIAL (APPROVED) |
| 3         |         | AS DRAWN BY APICAL                                                                                                                                                                     | 11/6/2012  | JAG                |
| 4         | 15-0180 | UPDATED TO NEW DRAFTING STANDARDS. CHD P/N WAS C45-15-4 IS AN960-816, C45-15-4 DELETED, REPLACED WITH AN8-23A, C45-15-5 DELETED, REPLACED WITH MS21044N8, C45-18-7 ADDED TO BOM QTY 4. | 7/22/2015  | DFD JAG            |
| E         | 15-660  | Replace B/O Jmb for C45-15-2, C45-15-3 and C45-15-9, C45-15-12                                                                                                                         | 04/12/2019 | 7Mdc ML            |



| ASSY QTY | ASSY QTY | B/O | Part #    | UNIT QTY | Description         | Material | B/O INFORMATION OR SPECIFICATIONS         |
|----------|----------|-----|-----------|----------|---------------------|----------|-------------------------------------------|
|          |          |     | C45-19C   | 1        | WELDMENT            |          |                                           |
|          |          |     | C45-15-2  | 1        | LIFTING BOLT        | STEEL    | AN12462                                   |
|          |          | B/O | C45-15-3  | 1        | CASTLE NUT          | STEEL    | AN310-12                                  |
|          |          | B/O | C45-15-7  | 2        | LIFTING BOLT WASHER | STEEL    | 3/4 (MCMASTER-CARR #9023A036)             |
|          |          | B/O | C45-15-9  | 1        | COTTER PIN          | S.S      | MS20465-343                               |
|          |          |     | C45-15-10 | 1        | FORD BUMPER         |          | (#E312-4730-A) MODIFIED                   |
|          |          | B/O | C45-15-11 | 1        | CAGE BUMPER NUT     | STEEL    | M10 CLASS B (MCMASTER-CARR #0576A118)     |
|          |          | B/O | C45-15-12 | 1        | CAGE BUMPER WASHER  | STEEL    | MS20465-343                               |
|          |          |     | C45-15-6  | 1        | LIFTING BUSHING     | STEEL    | 4140/4142                                 |
|          |          | B/O | C45-18-7  | 4        | SHIM                | STEEL    | .025 X .051 I.D. (MCMASTER-CARR #3086A12) |
|          |          | B/O | AN8-23A   | 4        | BOLT                | STEEL    | 1/2-20 X 1.47                             |
|          |          | B/O | AN960-816 | 2        | LIFTING BOLT WASHER | STEEL    | AN960-816 (NAS1149066P)                   |
|          |          | B/O | MS21044N8 | 2        | NUT                 | STEEL    | 1/2-20                                    |

**DART**  
Aerospace

C45 CAGE

C45-C

APICAL

7/2/15

ML

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
FRACTIONS & DECIMALS  
ANGLES & TOLERANCES  
1. BREAK ALL SHARP EDGES .015 x 45°  
2. DIMENSIONAL LIMITS APPLY AFTER PLATING  
SCALE 1:8 DATE 4/12/2019 SHEET 1 OF 1

|                                  |  |                                 |  |
|----------------------------------|--|---------------------------------|--|
| NCR No.                          |  |                                 |  |
| Job: _____                       |  |                                 |  |
| Part No. _____                   |  |                                 |  |
| Date :                           |  | Sequence #:                     |  |
| Description Work Order Deviation |  | QTY Affected :                  |  |
| Disposition                      |  | Disposition                     |  |
| DISPOSITION                      |  | DEPARTMENT/PROCESS              |  |
| Rework                           |  | Cross tube                      |  |
| Scrap                            |  | Small Fab                       |  |
| Use-as-is                        |  | Finishing                       |  |
|                                  |  | Skid-tube                       |  |
|                                  |  | Machining                       |  |
|                                  |  | Large Fab                       |  |
|                                  |  | Eng. (Non-AW)                   |  |
|                                  |  | Prod. Eng. Coord.               |  |
|                                  |  | Rec/Store/Packaging             |  |
|                                  |  | Engineering                     |  |
|                                  |  | Water Jet                       |  |
|                                  |  | Supplier                        |  |
|                                  |  | Quality                         |  |
|                                  |  | MRB (QS1042)                    |  |
|                                  |  | Completed By                    |  |
|                                  |  | Lead hand / Supervisor          |  |
|                                  |  | QC / QA Coordinator             |  |
| Root Cause                       |  | FAULT CATEGORY                  |  |
| Operator                         |  | Positioned Wrong                |  |
| Manufacturing Process            |  | Outside Tolerance               |  |
| Equip/Tooling                    |  | Drawing                         |  |
| Handling/Preservation            |  | Finish                          |  |
| Material                         |  | Part Lost/Missing               |  |
| Product Improvement              |  | Misread                         |  |
| Process Improvement              |  |                                 |  |
| Human Factors                    |  |                                 |  |
|                                  |  | Power Loss/Surge                |  |
|                                  |  | Folio/Program                   |  |
|                                  |  | Grain Direction                 |  |
|                                  |  | Weld                            |  |
|                                  |  | Wrong Stock Pulled              |  |
|                                  |  | Out of Sequence                 |  |
|                                  |  | Off-set/Set-up                  |  |
|                                  |  | Contamination                   |  |
|                                  |  | Misaligned/off center           |  |
|                                  |  | BOM/Route                       |  |
|                                  |  | Broken/Damage/Defect            |  |
|                                  |  | Incomplete/Unclear Instructions |  |
|                                  |  | Drill Holes                     |  |
|                                  |  | Fit/Function                    |  |
|                                  |  | Pressure/Forced                 |  |
|                                  |  | Bending                         |  |
|                                  |  | Crushing                        |  |
|                                  |  | Cracks                          |  |
|                                  |  | Crimp/Kink/Ripple/Wave/Twist    |  |
|                                  |  | Marks/Chatter                   |  |
|                                  |  | Mislabeled                      |  |
|                                  |  | Other/Details:                  |  |